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Acquisition

**ASSURANCE OF OPERATIONAL SAFETY,
SUITABILITY, & EFFECTIVENESS**

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OPR: SAF/AQRE (Lt Col Sherman Forbes)

Certified by: SAF/AQR (Dr. Donald C. Daniel)

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This policy establishes the Air Force requirement for assurance of operational safety, suitability, and effectiveness throughout a system's or end-item's operational life. This policy applies to Air Force product lines, including those operated by the Air National Guard and Air Force Reserve, as well as to designated systems and end-items procured, operated, and/or maintained by the Air Force for other government agencies. Operational safety, suitability, and effectiveness principles should apply to all items that are managed by the Air Force. Managers, at all levels, should consider the need to assure operational safety, suitability, and effectiveness throughout the life cycle of the items they manage.

1. General. Operational safety, suitability, and effectiveness apply to the four Air Force Product Lines (i.e., Air, Space and Missile, Air Armament, and Command and Control) and other designated systems and end-items. See AFI 63-1201, *Assurance of Operational Safety, Suitability, & Effectiveness*, for a detailed description of the process and its elements. This policy requires:

- 1.1. Delivery of systems and end-items with a baseline that enables the continuing assurance of operational safety, suitability, and effectiveness.
- 1.2. Preservation of baseline operational safety, suitability, and effectiveness characteristics of systems and end-items over their operational life.
- 1.3. Updating of operational safety, suitability, and effectiveness baselines when making modifications or changes to systems or end-items.

2. The Air Force will:

- 2.1. Assure the operational safety, suitability, and effectiveness of all systems and end-items currently in, or entering, the operational inventory.
- 2.2. Employ a disciplined systems management process, a disciplined engineering process, and effective operational, training, supply, and maintenance procedures to preserve the system and end-item operational safety, suitability, and effectiveness throughout the operational life.

3. Responsibilities and Authorities.

3.1. SAF/AQ. SAF/AQ will:

3.1.1. Ensure that other acquisition policies and directions support the development and preservation of operational safety, suitability, and effectiveness baselines.

3.1.2. Ensure that the validation of these baselines is included in the milestone decision process.

3.2. SAF/MI. SAF/MI will ensure Air Force environment, safety, and occupational health policy and direction are consistent with, and support, the preservation of operational safety, suitability, and effectiveness.

3.3. HQ USAF/IL. HQ USAF/IL will:

3.3.1. Ensure a list of operational systems and end-items used by the Air Force is created and maintained. The list should also identify the responsible management organization for each designated system and end-item.

3.3.2. Ensure Air Force logistics data systems support the assurance of operational safety, suitability, and effectiveness for Air Force systems and end-items.

3.3.3. Ensure maintenance, supply, and logistics training directives support preservation of operational safety, suitability, and effectiveness.

3.4. HQ USAF/SE. HQ USAF/SE will:

3.4.1. Ensure that System Safety and Operational Risk Management policies and direction support the preservation of operational safety, suitability, and effectiveness for Air Force systems and end-items.

3.4.2. Ensure that Air Force mishap prevention and investigation policy and direction require assessment of operational safety, suitability, and effectiveness where system or end-item failures or deficiencies are contributory to a mishap.

3.5. HQ USAF/TE. HQ USAF/TE will ensure Air Force test and evaluation policy and procedures support the establishment and sustainment of complete and accurate operational safety, suitability, and effectiveness baselines throughout the operational life of the system or end-item.

3.6. HQ USAF/XO. HQ USAF/XO will:

3.6.1. Ensure operation and training directives support preservation of operational safety, suitability, and effectiveness.

3.6.2. Provide guidance for including operational safety, suitability, and effectiveness requirements in joint and Air Force program requirement documents.

3.7. Program Executive Officers (PEOs) and Designated Acquisition Commanders (DACs). PEOs and DACs will ensure that operational safety, suitability, and effectiveness baselines are developed and validated during the milestone decision process for acquisition programs within their portfolio as defined in the Program Management Directives.

3.8. Air Force Materiel Command (AFMC). AFMC will:

3.8.1. Ensure the preservation of operational safety, suitability, and effectiveness for all systems and end-items after delivery to the user.

3.8.2. Designate the responsible Single Manager organization for AFMC managed systems and end-items to AF/IL for inclusion in the listing.

3.9. Single Managers. Single Managers will:

3.9.1. Be responsible for ensuring and preserving the operational safety, suitability, and effectiveness, throughout the operational life, of the systems and end-items they manage in support of the operational commands and other users

3.9.2. Be the responsible authority for approving all configuration and maintenance changes and modifications to the systems and end-items they manage.

3.9.3. In coordination with the operational command, develop, update, and maintain the operational safety, suitability, and effectiveness baselines for the systems and end-items they manage.

3.10. Operating Commands and Other Air Force Users. Operating Commands and other Air Force users will:

3.10.1. Notify the responsible Single Manager prior to implementation of any operational change and obtain approval from the responsible Single Manager prior to implementation of any system or end-item configuration or maintenance change.

3.10.2. Assume responsibility for ensuring and preserving operational safety, suitability, and effectiveness for all systems and end-items directly acquired.

3.10.3. Designate the responsible Single Manager organization for systems and end-items they manage and provide to AF/IL for inclusion in the list.

3.10.4. In coordination with the Single Manager, develop the operational safety, suitability, and effectiveness baseline.

3.11. Commander's Prerogative on Mission Capability. This guidance does not infringe on the Major Command Commander's prerogative to operate less than fully mission capable systems.

F. WHITTEN PETERS
Secretary of the Air Force

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 10-3, *Air Reserve Component Forces*

AFPD 10-6, *Mission Needs and Operational Requirements*

AFPD 10-7, *Command and Control Warfare*

AFPD 10-9, *Lead Operating Command Weapon Systems Management*

AFPD 10-12, *Space*

AFPD 10-21, *Air Mobility Lead Command Roles and Responsibilities*

AFPD 11-2, *Aircraft Rules and Procedures*

AFPD 20-3, *Air Force Weapon System Repairable Asset Management*

AFPD 21-1, *Managing Aerospace Equipment Maintenance*

AFPD 21-2, *Non-nuclear and Nuclear Munitions*

AFPD 21-3, *Technical Orders*

AFPD 21-4, *Engineering Data*

AFPD 31-7, *Acquisition Security*

AFPD 33-1, *Command, Control, Communications and Computer (C4) Systems*

AFPD 36-22, *Military Training*

AFPD 40-2, *Radioactive Materials (Non-Nuclear Weapons)*

AFPD 62-2, *System Survivability*

AFPD 62-4, *Standards of Airworthiness for Passenger Carrying Commercial Derivative Transport Aircraft*

AFPD 62-5, *Standards of Airworthiness for Commercial Derivative Hybrid Aircraft*

AFPD 63-1, *Acquisition System*

AFPD 63-2, *Automatic Test Systems and Equipment*

AFPD 63-5, *Quality Assurance*

AFPD 63-10, *Aircraft Structural Integrity*

AFPD 90-8, *Environment, Safety, and Occupational Health*

AFPD 90-9, *Operational Risk Management*

AFPD 91-1, *Nuclear Weapons and Systems Surety*

AFPD 91-2, *Safety Programs*

AFPD 91-3, *Occupational Safety and Health*

AFPD 99-1, *Test and Evaluation Process***Abbreviations and Acronyms****AFMC**—Air Force Materiel Command**DAC**—Designated Acquisition Commander**ORM**—Operational Risk Management**PDO**—Publishing Distribution Office**PEO**—Program Executive Officer**Terms**

Air Force Product Lines—In response to the FY98 National Defense Authorization Act, the Air Force has defined its Research, Development, Testing, and Evaluation infrastructure around four product lines that support core Air Force competencies. The product lines are Air (e.g., Unmanned Air Vehicles), Air Armament (e.g., Directed Energy), Command and Control (e.g., Global Grid), and Space & Missile (e.g., Intercontinental Ballistic Missiles).

Assurance—A planned and systematic pattern of actions necessary to provide confidence that expected performance is achieved.

Baseline—A description of the operational safety, suitability, and effectiveness characteristics and limitations of any system or end-item that must be understood, acknowledged and maintained during operational deployment, use, experimentation, exercises, training, and maintenance of the system or end-item. [The operational safety, suitability, and effectiveness baseline is established in development and updated as changes (threat, operational usage, aging, etc.) and improvements are made to the system or end-item. The operational safety, suitability, and effectiveness baseline may include the configuration baseline (specifications, drawings, and software code listings), Mission Need Statements, Operational Requirements Documents, Technical Orders, Time Compliance Technical Orders, certifications, training, maintenance facilities, spare parts, threat scenarios, etc.]

End-Item—Equipment that can be used by itself to perform a military function.

Force Protection—Passive, Active, and Offensive measures taken to prevent or mitigate successful hostile actions against Air Force people and resources while not directly engaged with the enemy.

Full-Dimension Protection—A combination of Information Assurance and Force Protection measures used throughout a system's life cycle to ensure mission capability.

Information Assurance—Information operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. This includes providing for restoration of information systems by incorporating protection, detection, and reaction capabilities.

Operational Effectiveness—The overall degree of mission accomplishment of a system or end-item used by representative personnel in the environment planned or expected (e.g., natural, electronic, threat) for operational employment of the system or end-item considering organization, doctrine, tactics, information assurance, force protection, survivability, vulnerability, and threat (including countermeasures; initial nuclear weapons effects; and nuclear, biological, and chemical contamination

threats). (AFI 99-102)

Operational Risk Management (ORM)—The systematic process of identifying hazards, assessing risk, analyzing risk control options and measures, making control decisions, implementing control decisions, accepting residual risks, and supervising and reviewing the activity for effectiveness of the implemented controls. The application of ORM in the acquisition and sustainment of systems and end-items includes System Safety. (AFPD 90-9)

Operational Safety—The condition of having acceptable risk to life, health, property, and environment caused by a system or end-item when employing that system or end-item in an operational environment. This requires the identification of hazards, assessment of risk, determination of mitigating measures, and acceptance of residual risk.

Operational Suitability—The degree to which a system or end-item can be placed satisfactorily in field use, with consideration given to availability, compatibility, transportability, interoperability, reliability, wartime use rates, maintainability, full-dimension protection, operational safety, human factors, architectural and infrastructure compliance, manpower supportability, logistics supportability, natural environmental effects and impacts, and documentation and training requirements. (AFI 99-102)

Single Manager—The single individual specifically designated, under the integrated weapon system management architecture, to be responsible for the life cycle management of a system or end-item. The Single Manager is the program manager vested with full authority, responsibility, and resources to execute and support an approved Air Force program.

System—A specific grouping of subsystems, components, or elements designed and integrated to perform a military function.

System Safety—The application of engineering and management principles, criteria, and techniques to achieve acceptable mishap risk, within the constraints of operational effectiveness and suitability, time, and cost, throughout all phases of the system life cycle. (Military Standard 882D)